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## PRINCE

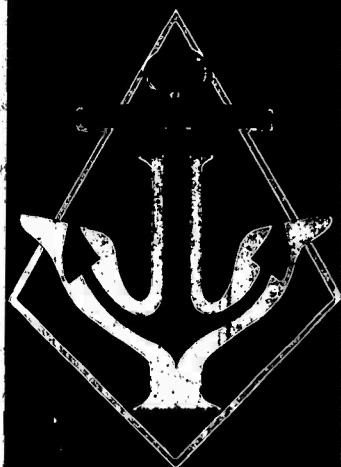
PERSONNEL REACTIONS TO INCENTIVES  
NAVAL CONDITIONS AND EXPERIENCES:  
A LONGITUDINAL RESEARCH STUDY.

Report No. 4: The Grass is Greener: A Comparison  
of the Navy Work Environment with a  
Major Alternative

Joseph Schneider

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Report No. 4: The Grass is Greener:  
A Comparison of the Navy Work  
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Work Unit No  
TDP P43.07X.C5.32W

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WASHINGTON, D. C. 20374

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## FOREWORD

This report presents background, rationale and data for the purpose of providing input to PRINCE (Personnel Reactions to Incentives, Naval Conditions and Experiences). The PRINCE research is a longitudinal research project designed to examine the influence of incentives, naval conditions and experiences as they affect and are affected by individual attitudes and reenlistment/career intentions among first term enlistees. The data contained in the present report were collected from individuals not represented in the main PRINCE sample. Data on these individuals can be obtained in three prior reports (Katz, 1971; Katz and Schneider, 1972; and Schneider and Katz, 1973).

A number of persons in the Laboratory provided assistance at various stages in the research underlying this report. Aaron Katz helped in the data collection phase. David Greenberger, Beatrice Farr and Laurie Broedling provided comment and criticism on an earlier draft of the report.

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## SUMMARY

### Problem

Personnel loss through nonreenlistment beyond initial obligations is an old problem for the Navy. It assumes greater importance with the current implementation of the all volunteer armed forces system. Now, more than ever, the Navy is in competition with the other armed services and civilian organizations for competent and potentially effective human resources to carry out its mission. It is necessary to develop and evaluate procedures that take into account the fact that Navy personnel may have alternatives to the Navy environment. These alternatives may be more attractive than the Navy and may drain the human resources required by the Navy.

### Purpose

The purposes of the present report are:

- (a) To further develop and evaluate the use of a theory of motivation (instrumentality theory) as the basis for collecting data on personal perceptions of the Navy environment and a potential alternative (a civilian occupation).
- (b) To utilize this comparative information about the two environments for explaining and accounting for reenlistment and career intentions.

### Background

Instrumentality theory argues that the attraction of an environment for an individual is dependent upon: (a) outcomes which the individual perceives he will attain or not attain by participating in an environment (instrumentality), and (b) the desirability or undesirability of those outcomes to the individual (outcome desirability). In this context desirability refers to how satisfied or dissatisfied the individual would be if he attained or did not attain the outcome. Examples of outcomes are: recognition by superiors for work well done, utilization of different skills and abilities in one's work, and promotion or advancement based on one's performance.

The procedures by which Navy personnel formulate intentions to continue in the Navy beyond an initial obligation constitute a decision-making process. Staying or leaving is the result of translating the intention into action. The decision-making process which

underlies intentions is probably based on a comparison of the attraction of the Navy with alternatives. In the present report the Navy enlistees judged the attraction of the Navy work context and an alternative - being a working civilian.

### Approach

One hundred and twenty-eight questionnaires were completed by Navy ship and shore enlisted personnel based at Newport, R. I. Questionnaires were administered by Naval Personnel Research and Development Laboratory personnel on two successive days.

### Results

The data analyses involved different procedures for comparing the attraction of the Navy work context with the alternative - a civilian work context.

(The sample as a whole perceived the civilian work context to be more attractive than the Navy work context.) Reenlistment and career intentions were correlated significantly with the attraction of the Navy ( $r = 0.41$  and  $r = 0.36$ , respectively) and with the attraction of being a working civilian ( $r = -0.24$  and  $r = -0.27$ , respectively). That is, Navy attraction was positively related to reenlistment and career intentions, and civilian attraction was negatively related to these same intentions.

Reenlistment and more long-term Navy career intentions were described as decisions which take into account the attraction of an alternative work context. To examine, simultaneously, the attraction of the two work contexts, a difference score was calculated by subtracting an individual's Navy attraction index from his civilian attraction index. This difference was then correlated with both reenlistment and career intentions. The correlation between reenlistment intention and the attraction difference was significant ( $r = -0.54$ ) as was the correlation between career intention and the attraction difference ( $r = -0.52$ ).

Correlations were computed between: (a) the instrumentality (i.e., perceptions of outcome attainment or nonattainment) of the Navy and reenlistment and career intentions, and (b) the instrumentality of the civilian work context and these same intentions. The instrumentality ratings, therefore, were not combined with outcome desirability ratings. Previous instrumentality theory research has shown that including outcome desirability evaluations did not always improve relationships with criterion variables. The instrumentality correlations, for the sample in general, were as

high or higher than the correlations between attraction, and reenlistment and career intentions. Further analysis indicated that these results were partially due to the complex relationships between instrumentality, outcome desirability, and intentions.

### Discussion and Conclusions

The results of the data analyses were consistent with the intended aims of the research. [First, when instrumentality theory components (instrumentality and outcome desirability) were combined according to specifications directed by the theory, they were related to reenlistment and career intentions.] Furthermore, these data allowed one to compare the relative attraction of staying in the Navy, or leaving and becoming a working civilian. Second, [the comparative data were correlated significantly with continued participation intentions; the more attractive it was to be a working civilian (compared to being in the Navy) the less likely it was for enlistees to indicate an intention to reenlist and make the Navy their career.]

Because of the time-bounded nature of an enlistee's obligation to the Navy it made both empirical and practical sense to stress the nature or direction of behavioral intentions for continuing beyond initial enlistment periods. Thus, the knowledge that particular variables are related to intentions can be used by Navy managers as information for policy planning. Further organizational change efforts can be more effectively delineated by knowing the nature and direction of enlistees' intentions to stay or leave at the completion of their current Navy service obligations.

[The civilian context was more attractive for the majority of the enlistees in this sample.] The type of data collected for this research demonstrated this empirically. This information provides a basis for collecting similar information from larger samples of Navy personnel. This information might then be utilized as a foundation for changing the Navy conditions which cause people to evaluate the Navy less favorably than the civilian alternative.

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The Grass is Greener: A Comparison of the Navy Work Environment with a Major Alternative WTR 73-28

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# TABLE OF CONTENTS

	Page
Foreword.....	ii
Summary.....	iii
Use and Evaluation Form.....	--
List of Tables.....	viii
List of Figures.....	viii
 INTRODUCTION	 1
Problem.....	1
Purpose.....	1
Background.....	2
Instrumentality Theory.....	2
The Importance of Alternatives.....	7
Overview of Present Study.....	9
 METHOD	 13
Subjects.....	13
Procedure.....	13
Instrument.....	13
Demographic Characteristics.....	13
Outcome Desirability.....	13
Instrumentality.....	15
 RESULTS	 19
Outcome Desirability.....	19
Instrumentality.....	19
The Relationship of Attraction or Instrumentality and Reenlistment and Career Intentions.....	19
The Simultaneous Consideration of Two Work Contexts.....	23
Further Data on Outcome Desirability.....	29
Global Instrumentality.....	32
Work and Navy Satisfaction.....	32
 DISCUSSION	 35
Comparison of Alternatives.....	35
Participation/Withdrawal Intentions.....	36
Multiple Instrumentality Ratings versus a Single Global Rating.....	38
Instrumentality, Outcome Desirability and Feedback.....	39
Conclusions.....	41
 References.....	 43
Distribution List.....	--

## LIST OF TABLES

	Page
1. Characteristics of the Respondent Sample.....	14
2. Means and Standard Deviations for Outcome Desirability, Perceptions of Navy Instrumentality and Perceptions of Working Civilian Instrumentality for 30 Outcomes.....	20
3. Correlations Between the Attraction or Instrumentality of Being in the Navy or Being a Working Civilian and Reenlistment and Career Intentions.....	22
4. Means and Standard Deviations for Navy and Civilian Attraction and Reenlistment and Career Intentions.....	24
5. Means and Standard Deviations for Navy and Civilian Instrumentality and Reenlistment and Career Intentions.....	25
6. Distributions of Reenlistment Intentions as a Function of Whether the Navy or Civilian Environments were Viewed as More Attractive or Instrumental for the Attainment of Outcomes.....	28
7. Correlations Between the Attraction or Instrumentality of Being in the Navy or Being a Working Civilian and Reenlistment and Career Intentions.....	30
8. Correlations Among Attraction and Instrumentality Indices, Sum Outcome Desirability and Intentions.....	31
9. Correlations Between Various Indices and Satisfaction with Work and Satisfaction with the Navy.....	34

## LIST OF FIGURES

1. Hypothetical Model of Organizational Participation/Withdrawal Behavior.....	10
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## INTRODUCTION

### Problem

With the recent implementation of the all-volunteer armed forces program, many Navy managers feel that it will become more difficult to build and maintain a competent contingent of men to carry out the Navy's mission. Certainly, one manner of achieving this would be to create conditions in which higher proportions of men would choose to remain in the Navy beyond their primary obligation. The Navy has been and will continue to be in competition with the other armed services, and civilian occupations in general, for human resources. Procedures have to be identified and evaluated to determine the bases on which the Navy compares with alternative work contexts to the Navy organization. Further, the results of the comparison processes should provide information to Navy managers which can be used to predict decisions by people in the Navy to continue their obligation beyond one term.

### Purpose

The aims of this report are:

- (a) To examine the viability of using a theory of motivation (instrumentality theory) as the basis for collecting data about the variables which underlie Navy men's intentions about continuing in the Navy, or leaving for a major work alternative - a civilian occupation.
- (b) To evaluate this data as a basis for understanding intentions to stay in the Navy beyond the time period of a single four year obligation.

The basis for comparing the Navy organization with an alternative work context in order to provide information to build system effectiveness (cf. Schneider and Katz, 1973) lies in the commonly heard statement: "The grass is always greener..." It is a statement usually directed to a person when it becomes obvious that he is considering relationships alternative to his current situation. The statement is heard frequently enough so that one might infer that people continually evaluate alternatives. Of course, a typical outcome of evaluation is that an alternative (or alternatives) is seen to be more attractive, more promising, more enticing, etc. Does this statement characterize the relationship individuals have with respect to the Navy organization? Do Navy enlistees compare their current organization with alternative environments? And if

so, what does the comparison tell us about the "persistence" of an enlistee's relationship to the Navy? That is, can we know whether he will stay or leave?

Perceptions of the individual's current work context (the Navy) and an alternative work context (being a working civilian) were assessed. What is the level of the relationship between these comparative perceptions and intentions about continued organizational participation (that is, "non" - turnover) by the individual? The perceptions referred to here are judgments by Navy enlistees of the degree to which each context was perceived to lead to the attainment of desired outcomes and away from undesirable outcomes.

### Background

Increasingly, organizational theorists have found it advantageous to view organizations and organizational processes from an open systems perspective (Katz & Kahn, 1966; Hall, 1972). When the organization is viewed with respect to its larger environmental context, the organization's functioning and survival depend upon the environmental milieu for production input, information input and human resource input. This most certainly applies to the Navy organization. The human resource input component is the focus of this paper. In this regard, organizations of all kinds have recognized that they have turnover problems. Most organizations would prefer to improve their turnover ratio, since turnover is expensive for both the individual who leaves and for the organization which trained and otherwise expended effort during the initial time of an individual's association with the organization. Attempts at approaching smooth work flows are disrupted when individuals who occupy various role positions must be replaced.

In this report, turnover behavior will be discussed in terms of decisions about continued organizational participation or the alternative, organizational withdrawal (March and Simon, 1958). Viewed in this manner one might conceive of a psychological continuum of organizational participation-organizational withdrawal which underlies the actual behavior of an individual with regard to the organization and his work.

### Instrumentality Theory

The present paper approaches the examination of organizational participation-withdrawal from an expectancy-instrumentality theory point of view.<sup>1</sup> Instrumentality theory has resulted in much research

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<sup>1</sup>Expectancy-instrumentality theory will be referred to as instrumentality theory in the present paper.

as a result of Vroom's (1964) integration and extension of work by Tolman (1932), Lewin (1935), Peak (1955), Rotter (1955), Edwards (1954) and others. As stated by Vroom, instrumentality theory contained two formal propositions:

Proposition 1. The valence of an outcome to a person is a monotonically increasing function of the algebraic sum of the products of the valences of all other outcomes and his conceptions of its instrumentality for the attainment of these other outcomes.

Symbolically, the proposition takes the following form:

$$V_j = f \left[ \sum_{k=1}^n (V_k I_{jk}) \right],$$

where

$V_j$  = the valence of outcome  $j$ ;

$I_{jk}$  = the cognized instrumentality of outcome  $j$   
for the attainment of outcome  $k$ ;

$V_k$  = the valence of outcome  $k$ ;

$n$  = the number of outcomes.

Proposition 2: The force on a person to perform an act is a monotonically increasing function of the algebraic sum of the products of the valences of all outcomes and the strength of his expectancies that the act will be followed by the attainment of these outcomes.

Symbolically; the proposition takes the following form:

$$F_i = f_i \sum_{j=1}^n (E_{ij} V_j) \quad (i = n + 1, \dots, m),$$

where

$F_i$  = the force to perform act  $i$ ;

$E_{ij}$  = the strength of the expectancy that act  $i$   
will be followed by outcome  $j$ ;

$V_j$  = the valence of outcome  $j$ ;

$n$  = the number of outcomes.

Vroom reviewed literature in the areas of job satisfaction, turnover and absenteeism, job performance and occupational choice. For each area he concluded that instrumentality theory could both predict and parsimoniously explain the data. The primary emphasis of research utilizing instrumentality theory has been conducted with respect to job performance (proposition 2) (cf., Galbraith and Cummings, 1967; Graen, 1969; Schneider, 1972; Lawler and Suttle, 1973; and Dachler and Mobley, 1973). However, proposition 1 is more relevant to the present paper than proposition 2. For example, according to proposition 1, the degree to which an individual anticipates the attainment of outcomes of high valence (and the nonattainment of outcomes in low valence) in a work situation should provide an indication of the attraction of the job to the individual. This could then serve as an indication of job satisfaction, preference for occupational choice, absenteeism and turnover. Thus, Vroom stated that:

People's reports of their satisfaction with their jobs are, in fact, directly related to the extent to which their jobs provide them with such rewarding outcomes as pay, variety in stimulation, consideration from their supervisor, a high probability of promotion, ..., and control over their work pace. (Vroom, 1964, p. 174)

In the present paper the term attraction is employed where valence of a job or position is referred to. The term desirability will be substituted for valence where the referent is outcome valence.

Data reviewed by Vroom support the notion that the attraction of a job (rated with a single item) is related to the instrumentality of that job for the attainment of desired outcomes. A study by Vroom (1966), conducted in order to clarify the occupational choice process, is relevant here. Vroom attempted to; (a) identify the psychological variables which underlie initial organizational preference, and (b) identify changes which occur in these psychological variables as a result of the occupational choice. The former aim was approached from an instrumentality theory point of view.

Thirty-seven Master of Science candidates in industrial management rated the importance (desirability) of 15 goals (outcomes) according to a forced 2, 3, 5, 3, 2 distribution. Employing the same distribution, the subjects rated the instrumentality of each of three organizations (organizations they had had contact with concerning employment) for the attainment of each of the 15 outcomes. Each individual rated, on an 11 point scale, the overall attraction of each of the three organizations. Each degree candidate completed all of the ratings on two successive occasions-eight weeks before graduation<sup>2</sup> and four weeks before graduation-at which time they had made an occupation choice. The data indicated that the mean instrumentality-goal index increased as the overall rated attractiveness of an organization increased, in terms of the degree to which the organization was perceived to be the context in which they would attain goals (outcomes). Vroom also found that the instrumentality-goal index of the chosen organization increased significantly from the first rating (before a choice was made) to the second rating (after a choice was made). At the same time, the instrumentality-goal index decreased for nonchosen alternatives. These results were predicted and explained on the basis of Festinger's (1957) concept of post decision dissonance, which predicts a devaluation of nonchosen alternatives at a time point past decision making.

Although it was not a specific aim of Vroom's study, it is worth noting that 22 of 37 (59%) subjects actually chose the organization which had the highest instrumentality-goal index. Seven of the 37 (19%) chose the intermediately rated organization, four of 37 (11%) chose the lowest and the remaining four chose an organization whose instrumentality-goal index was equivalent to the instrumentality-goal index of another organization. Vroom did not report indices of association for these latter data, nor were indices of association

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<sup>2</sup>The 37 subjects considered here had not made a choice at this point. Twelve additional degree candidates were included in Vroom's paper. These were subjects who had already chosen an organization for post graduation employment at the time the first ratings were made.

reported for the data which indicated that mean instrumentality-goal indices were higher for organizations rated higher on the single item measuring overall attraction.

Vroom and Deci (1971) reported the results of two successive followup studies using Vroom's (1966) original sample. Data were collected one year after and again 3 1/2 years after the former students had joined an organization. Each individual was asked to rate the desirability of the same 15 outcomes rated previously and the instrumentality of their present organization for the attainment of the outcomes. Additionally, on the 3 1/2 year questionnaire, subjects rated the instrumentality of a nonchosen organization rated before graduation for the attainment of each outcome. The primary aim of the study was to examine the degree to which changes occurred in the psychological variables underlying organizational preference after individuals had an opportunity to experience the characteristics of their work environment. In general, the data showed that the instrumentality-goal index of the chosen organization decreased substantially between the time subjects had made their original choice and after they had one year's experience on the job. The decreased instrumentality-goal index remained at this low level for the next 2 1/2 years as indicated on the questionnaire administered 3 1/2 years after graduation. Vroom and Deci found that the mean instrumentality-goal index increased for those individuals who rated their chosen organization as more and more attractive on the single attraction item. For example, the mean instrumentality-goal index at 3 1/2 years was .17, .42, .51 and .61 for individuals who rated the attraction of their organization as "7 and below", 8, 9 and "10 and above", respectively. (see Table 3, Vroom and Deci, 1971, p. 45). The same pattern of results characterized ratings prior to joining and one year after organizational choice. These are important data for the present paper since they indicate some degree of association between an index of attraction (instrumentality-goal index) and direct ratings of attraction.

Vroom's study and the results of the follow-up (Vroom and Deci, 1971) provide support for the notion that the attraction of an organization (as indicated by the instrumentality-goal index) is related to preference for an organization prior to actual organizational choice and to rated attraction once the individual is in the organization. While this is implied by Vroom's and Vroom and Deci's studies, the magnitude of the relationship is unclear since actual indices of association were not reported.

It would seem logical to argue that the attraction (perceived instrumentality and outcome desirability) of a work context to an



individual provides an indication of his future orientation to the job. As such, attraction should provide an indication of the likelihood that an individual will continue to participate in the organization. There is not much specific data on this point from instrumentality theory. Vroom (1966) and Vroom and Deci (1971) provide some insights, but their primary focus was on the post decision dissonance process. On the other hand, Mitchell and Albright<sup>3</sup> (1972) found recently a significant positive correlation between an index of the attraction of an officer career in the Navy and career intentions. Mitchell and Albright collected data from 48 Navy aviation officers on: (a) the desirability of twelve outcomes, (b) the instrumentality of their respective officer positions for the attainment of each outcome, and (c) single item self report measures of overall satisfaction, satisfaction with work, satisfaction with position and a three alternative item about retention plans. Mitchell and Albright found that the sum of each of the outcome desirability-instrumentality products was correlated significantly with retention plans ( $r = 0.47$ ,  $p < .01$ ); overall satisfaction ( $r = 0.48$ ,  $p < .01$ ); satisfaction with position ( $r = 0.57$ ,  $p < .01$ ); and satisfaction with Navy ( $r = 0.30$ ,  $p < .05$ ).

Vroom's data (Vroom, 1966; Vroom and Deci, 1971) and the results reported by Mitchell and Albright (1972) suggest that perceptions of instrumentality (weighted by outcome desirability) are related to the attraction of an organization and that the attraction of an organization is, in turn, related significantly to intentions to leave or stay in the organization.

### The Importance of Alternatives

Vroom's research has provided a very important lead in attempts to investigate the nature of the psychological variables which underlie organizational participation/withdrawal decisions. In the original research and again in the follow-up study data were collected about multiple alternatives. Vroom's (1966) earlier data allows one to draw some conclusions about the attraction of the subsequently chosen organization and major alternatives. Herein lies the cornerstone of a decision process in most instances; that is, the examination (or at least the attempted examination) of alternatives prior to decision making. Although Mitchell and Albright found a significant relationship between the attraction of the Navy and intention to stay

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<sup>3</sup>Mitchell and Albright also collected data about expectations, performance instrumentality, and self and supervisory evaluations of effort and performance. The focus for the present paper is on retention, so that performance related data from Mitchell and Albright's paper are not presented here.

in the Navy, the predictive and explanatory power of that relationship is limited by the failure to consider the attraction of alternatives. Alternatives are important in the occupational choice process and in the dynamics underlying performance motivation (Schneider, 1972; Dachler and Mobley, 1973). They exist and are therefore relevant to the decision process underlying continued organizational participation. Most of our decisions are based upon some form of evaluation among alternative courses of action.

The relevance of alternatives and their impact on behavior were stressed by Thibaut and Kelley (1959) in their monograph which examined interpersonal transactions among two persons (a dyad). They proposed that individuals can employ two standards to judge the acceptability of a dyad. The comparison level (CL) is the criterion against which an individual judges the attractiveness of a relationship. CL is a standard used to evaluate outcomes (rewards and costs) which accrue to an individual in terms of what he feels he "deserves." The comparison level for alternatives (CL<sub>alt</sub>) references a standard which the individual employs to decide whether to stay in a relationship. CL<sub>alt</sub> represents the level of outcome an individual could expect in his best alternative relationship. Both CL and CL<sub>alt</sub> are standards based upon levels of outcome one has experienced in current and previous relationship, or which an individual thinks he might experience in an alternative relationship(s). Thus, CL and CL<sub>alt</sub> are not outcomes, rather, they are standards used to evaluate outcomes received and outcomes one feels he is likely to receive in the current relationship or in alternatives. According to Thibaut and Kelley: "In any viable relationship the individual's outcomes will be located above his CL<sub>alt</sub>; but his CL may have several different positions in relation to his outcomes and CL<sub>alt</sub>" (p. 23). Thus, understanding an individual's continued participation in a relationship (organization) requires a full knowledge of the attraction of the relationship to the individual and the attraction of major alternatives.

It is interesting to note that Thibaut and Kelley's (1959) reference to CL<sub>alt</sub> was made independently by Carey (1972). Although his paper was concerned with the relationship of satisfaction to variables which characterized a priest's environment, Carey noted that the relationship between satisfaction and turnover is by no means perfect:

The option of remaining in one's role is often compared with other alternatives and a decision is based on the consequences which are expected to follow from each. (Carey, 1972, p. 185)

Carey did not collect data on this comparative feature of role behavior.

It has been argued that continued organizational participation is best viewed as a process in which individuals evaluate their present circumstances and alternatives. A hypothetical model which maps this process is presented in Figure 1. The model organizes instrumentality perceptions, outcome desirability evaluations and links them with behavioral intentions and actions. The framework shows that participation/withdrawal intentions are influenced by the evaluation of present and alternative circumstances. The effects of such intentions are shown (a) to influence behavioral action (e.g., withdrawal, participation, psychological withdrawal, etc.); and (b) to have feedback effects such that the nature and level of behavioral intention affects future perceptions of current and alternative work contexts.

#### Overview of Present Study

The present report contains data about the major components of the model shown in Figure 1, with the exception of behavioral action.

Navy enlistees were asked to evaluate the attraction of the Navy and a major alternative (being a working civilian) in terms of each environment's perceived instrumentality of leading to desirable outcomes and away from undesirable outcomes. It was hypothesized that the intention to continue in the Navy organization beyond the time period of a present obligation was a function of the attraction of the Navy.

On the basis of Vroom's leads and arguments by Thibaut and Kelley, one would expect the relationship between the attraction of the present organization and participation intention to be influenced by the relationship of the attraction of other organizations to the attraction of the present organization. Therefore, it was hypothesized that the relationship between the attraction of the Navy and intention to remain in or leave the Navy would increase when the attraction of an alternative (working civilian) was considered.

In addition to employing attraction indices, the hypotheses were examined by employing instrumentality perceptions unweighted by outcome desirability ratings. This was done because a number of studies which have utilized instrumentality theory concepts (cf., Dachler and Mobley, Schneider, 1972; Lawler and Suttle, 1973) have found that weighting instrumentality perceptions by outcome desirability resulted in either small nonsignificant increases in predictions of effort and performance, or no increase at all.

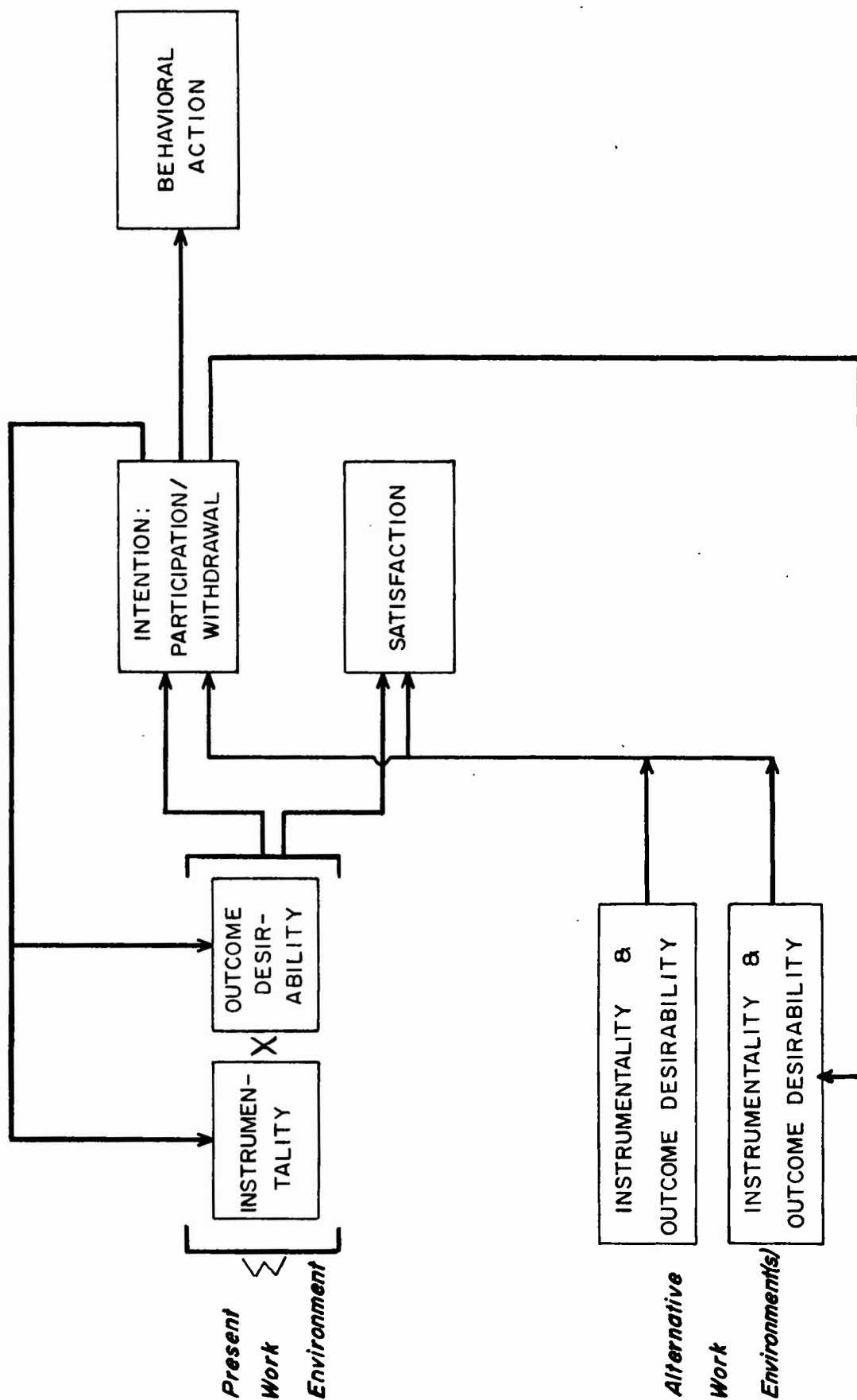


Figure 1 - Hypothetical Model of Organizational Participation/Withdrawal Behavior

Self report intentions to reenlist and make the Navy a career were the two primary concurrent criteria employed in the present research. Intentions are verbal reports of what individuals say they intend to do at some future time. Intentions were considered appropriate criteria in the present study. First, research by Locke (1968), Dulany (1968) and Schneider (1972), among others, has shown that behavioral intentions and goals are correlated significantly with and precede behavioral acts. Second, unlike many organizations the Navy requires time period commitments from its members. As such intentional criteria about continued participation/withdrawal are the primary indication of a behavior that will occur at a specific time in the future. Data support the assumption that intentions are valid indicators of behavioral acts. If the verbal reports of intention are veridical, then there is little reason for not using expressed behavioral intentions as criteria against which the hypotheses of the present paper are evaluated.

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## METHOD

### Subjects

Data were collected from 129 Navy enlistees. The sample included men in their first, second and third enlistments. Sixty-nine of the individuals were stationed in shore assignments, 59 had sea duty assignments. The data for one enlistee was not included in the analyses due to gross omissions of items in his questionnaire.

### Procedure

Subject selection was arranged through Navy command personnel. Each person was contacted in advance and was asked to participate for two and one-half hours.

All data were collected via closed format questionnaire items in four sessions on two successive days. The questionnaire took between 30 minutes and one hour to complete. Subjects who completed the questionnaire before others were permitted to leave the room but were asked to return for informal discussions when the remainder of the subjects had completed their questionnaires. A number of subjects provided written responses to questions posed by the researcher in two of the four sessions.

### Instrument

The questionnaire contained the following sections:

Demographic characteristics. Questions about education, time in Navy, amount of time remaining in current enlistment, age, paygrade, position rating, marital status, etc. were included. Table 1 contains means and standard deviations for some of these characteristics. Additionally, 52% of the sample were high school graduates; 36% had some college experience. Fifty percent of the sample were single, 47% were married, and 3% divorced or separated.

Outcome desirability. Subjects were asked to rate the desirability of 30 outcomes. Twenty-one outcomes were positively phrased, while nine outcomes were negatively phrased. The thirty outcomes were selected according to their relevance to previous instrumentality theory literature and according to their relevance to the Navy context and work contexts in general. The following instructions were given for outcome desirability ratings:

TABLE 1

## Characteristics of the Respondent Sample

Characteristic	Mean	Standard Deviation
Age	23.33	2.67
Paygrade <sup>a</sup>	4.22	.92
Time in Navy (years)	3.78	2.15
Time remaining in enlistment (years)	1.78	1.35
Time in present assignment	1.26	.77

<sup>a</sup>Paygrade ranges from grade 1 (E1) to grade 9 (E9)



We would like you to tell us how desirable or undesirable a number of things are to you. By desirable we mean how much you would like to experience or have each of these things. By undesirable we mean how much you would dislike experiencing or having each of these things. In deciding how desirable or undesirable you think each thing is, do not be influenced by whether or not you have that thing now. We are interested in how you feel about these things in general, regardless of where you now work.

Responses were made on 5 point Likert scales, each alternative verbally anchored; "very undesirable" (scored -2), "undesirable" (scored -1), "does not matter" (scored 0), "desirable" (scored +1), and "very desirable" (scored +2).

Instrumentality. After desirability ratings were completed subjects were asked to indicate their perceptions of the relationship between being in the Navy and obtaining each of the 30 outcomes rated for desirability. Also, subjects were asked to rate the instrumentality of being a working civilian for the attainment of each outcome. The following instructions were given:

In this section of the questionnaire we are interested in how you see the relationship between being in the Navy or being a working civilian and your chances of getting or doing various things. For each of the statements listed, we would like you to do two things:

First: Indicate what you feel your chances are of getting or doing each thing by being in the Navy.

Second: Assume that you are a working civilian, that is, that you are not in the Navy now. Then indicate what you feel your chances are of getting or doing each thing if you were a working civilian.

Five point scales were used for instrumentality questions with the following verbal anchors; "extremely poor chance" (scored 0), "little chance" (scored 1), "fair chance" (scored 2), "good chance" (scored 3), and "extremely good chance" (scored 4). A sample item is shown below:

What are your chances of doing things you find relaxing?

\_\_\_\_\_ By being in the Navy.

\_\_\_\_\_ By being a working civilian.

Attraction and instrumentality indices were formulated for each respondent for the two contexts. Attraction was a simple sum of each instrumentality-outcome desirability product. Instrumentality indices were formulated in the following manner:

1. The instrumentality of the Navy and being a working civilian for the attainment of desirable outcomes was determined.
2. The same was done for undesirable outcomes.
3. Total instrumentality for the Navy and for the alternative was the difference between the sum of the instrumentalities for the desirable outcomes and the sum of the instrumentalities for the negative outcomes.

In this manner the instrumentality scores for an individual across all outcomes took into account the nature, either positive or negative, of the outcome. For example, if a subject anticipated, with high probability, the occurrence of negative outcomes by being in a particular context, than the instrumentality index should reflect this fact.

In addition to the sections listed above, the following questions were included in the questionnaire:

(a) Reenlistment intention and career intention

Each question contained six response alternatives:

- I definitely intend to reenlist/make the Navy my career (scored 6)
- I most likely will reenlist/make the Navy my career (scored 5)

- I might reenlist/make the Navy my career (scored 4)
- I might not reenlist/make the Navy my career (scored 3)
- I most likely will not reenlist/make the Navy my career (scored 2)
- I definitely do not intend to reenlist/make the Navy my career (scored 1)

(b) Certainty of career plans. Subjects indicated how certain they were about their career intention on a single 3 point scale.

(c) Frequency with which Navy career plans are considered. Subjects were requested to indicate the frequency with which they thought about whether or not they would make the Navy their career. A five point scale was used; "never think about it" (scored 1), "rarely think about it" (scored 2), "sometimes think about it" (scored 3), "often think about it" (scored 4), and "constantly think about it" (scored 5).

(d) Satisfaction with work and Navy. Two questions asked subjects to indicate how satisfied they were with the work they did in the Navy and how satisfied they were with the Navy in general. Each item contained eight response alternatives ranging from extremely satisfied (scored 8) to extremely dissatisfied (scored 1).

(e) Overall instrumentality. Subjects were asked to indicate their perceived chances of attaining and doing most of the things they wanted by being in the Navy and by being a working civilian. Each of these responses was made on the same five point scale used to assess instrumentality for each outcome.

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## RESULTS

### Outcome Desirability

The thirty outcomes assessed in the questionnaire, and their means and standard deviations on outcome desirability are shown in Table 2. The nine outcomes which were phrased negatively (outcome numbers 2, 6, 7, 16, 19, 20, 22, 24 and 29) resulted in negative mean ratings. "Being dissatisfied with my job in general" was judged least desirable (mean = -1.56). The 21 positively phrased outcomes resulted in positive mean ratings of desirability. "Feeling that I have done my job well" was judged most desirable (mean = 1.55) among the set of outcomes assessed.

### Instrumentality

The instrumentality ratings for each outcome evaluated with respect to being in the Navy and being a working civilian are shown in Table 2. Each of the 30 instrumentality ratings obtained for the Navy context was correlated with the 30 instrumentality ratings for being a working civilian. Averaging only the 30 correlations for common items across contexts resulted in an average inter-item correlation equal to  $r = 0.16$  (not significant).

For 27 of 30 outcomes (numbers 20, 25 and 30 excepted) being a working civilian was judged: (a) to be more instrumental than being in the Navy for the attainment of positive outcomes, and (b) less instrumental than being in the Navy for the attainment of undesirable outcomes. Two of the exceptions appeared consistent with general Navy policy. First, individuals can be expected to have a better idea of "security" (knowing I will have my job tomorrow) for the Navy context than for most civilian occupations. Second, one of the well known characteristics of military organizations is the emphasis placed on education and training (working for an organization which takes no interest in your education and training).

The differences between mean instrumentality ratings for being in the Navy and being a working civilian were significant for 26 of the 30 outcomes.

### The Relationship of Attraction or Instrumentality and Reenlistment and Career Intentions

Hypothesis 1 predicted that intentions about continued organizational participation (reenlistment and career intentions) were a function of the attraction of the organization, where attraction was

TABLE 2

Means and Standard Deviations for Outcome Desirability, Perceptions of Navy Instrumentality and Perceptions of Working Civilian Instrumentality for 30 Outcomes

Outcome	Outcome desirability		Instrumentality				r	mean difference <sup>a</sup>
			Navy		Civilian			
	mean	s.d.	mean	s.d.	mean	s.d.		
1. Working for an organization that cares about you as a person	1.48	.75	1.78	.93	2.59	.78	.018	.81*
2. Working with people who <u>don't</u> care about doing good work	-1.50	.59	2.37	.99	1.83	.93	-.126	-.54*
3. Feeling personally responsible for part of the finished work	1.22	.74	2.23	.98	2.82	.77	-.048	.59*
4. Looking forward to coming to work tomorrow	.90	1.02	1.71	1.28	2.73	.76	-.180 <sup>+</sup>	1.02*
5. Working with people who accept your suggestions which might help their work	1.26	.62	1.93	.88	2.63	.71	.008	.70*
6. Having supervisors who take no personal interest in you	-1.27	.70	2.33	.89	1.92	.77	-.124	-.41*
7. Working for an organization where rules and procedures interfere with your work	-1.25	.66	2.67	.96	1.75	.76	.078	-.92*
8. Feeling that you have done your job well	1.55	.54	2.40	.82	2.99	.57	.057	.59*
9. Working for an organization which stresses good work	1.22	.60	2.48	.90	3.16	.62	.221 <sup>+</sup>	.68*
10. Learning new skills and abilities on your job	1.43	.68	2.10	1.06	2.81	.80	-.409*	.71*
11. Being promoted or advanced on the basis of your work	1.43	.69	1.88	1.05	2.97	.68	-.289*	1.09*
12. Doing interesting rather than routine work	1.43	.72	1.64	.93	2.78	.76	-.324*	1.14*
13. Having supervisors who know the technical parts of their work	1.43	.62	2.43	.79	2.98	.66	.133	.55*
14. Being proud to be a member of the organization you work for	1.18	.59	2.05	1.12	2.88	.68	-.003	.83*
15. Cooperating with other people to get the work done	1.16	.62	2.61	.74	2.88	.67	.182 <sup>+</sup>	.27*
16. Working for an organization which <u>can't</u> handle unusual problems that come up	-1.25	.66	1.85	.92	1.63	.78	.266*	-.22 <sup>+</sup>
17. Developing close friendships with the people you work with	1.01	.66	2.50	.94	2.92	.75	.145	.42*
18. Having supervisors who assign work and then allow you to figure out how to do it yourself	.90	.90	1.99	.88	2.55	.68	.006	.56*
19. Being dissatisfied with your job in general	-1.56	.67	2.51	1.04	1.61	.81	-.180	-.90*
20. Working for an organization that takes <u>no</u> interest in your education and training	-1.43	.76	1.79	.84	1.91	.88	-.205 <sup>+</sup>	.12
21. Completing a whole job (whole piece of work) yourself rather than just a small part of it	.87	.68	2.26	.82	2.40	.82	.073	.14
22. Not making enough money to live comfortably	-1.40	1.00	2.52	.91	1.64	.76	.284*	-.88*
23. Having a supervisor who knows how much you contribute to the work	1.13	.67	2.17	.85	2.50	.71	.156	.33*
24. Doing <u>only one task</u> all day rather than doing a <u>few different tasks</u>	-.54	.81	1.98	1.00	2.22	.82	.168	.24
25. Knowing you will have your job tomorrow	1.33	.69	3.65	.71	2.38	.78	.211 <sup>+</sup>	-1.27*
26. Using different skills and abilities to do your job	1.31	.51	2.18	.95	2.67	.68	-.223 <sup>+</sup>	.49*
27. Knowing that your work compares favorably with the work of others who do the same work you do	1.26	.55	2.36	.75	2.68	.62	.183 <sup>+</sup>	.32*
28. Working for an organization that has definite goals and objectives for the future	1.24	.68	2.33	.94	2.87	.60	-.060	.54*
29. Not knowing how well you are performing your duties	-1.19	.63	2.02	.89	1.74	.88	.065	-.28 <sup>+</sup>
30. Talking about other things besides work with people during work hours	.70	.75	2.71	.97	2.63	.86	.228*	-.08

<sup>a</sup>Civilian instrumentality-Navy instrumentality.

\*p<.01, 2 tailed test.

<sup>+</sup>p<.05, 2 tailed test.

a function of instrumentality and outcome desirability. The correlation between the index of the attraction of the Navy and reenlistment intention was  $r = 0.41$  ( $p < .01$ ).<sup>4</sup> Similarly, the correlation between the attraction of the Navy and career intention was  $r = 0.36$  ( $p < .01$ ).<sup>5</sup> Thus, hypothesis 1 was supported. The higher the rated attraction of the Navy the more positive were intentions to reenlist and make one's career in the Navy. The index of the attraction of being a working civilian was correlated negatively with reenlistment intention ( $r = -0.24$ ,  $p < .01$ ) and correlated negatively with a career intention ( $r = -0.27$ ,  $p < .01$ ).

The correlation between the Navy instrumentality index (instrumentality ratings not weighted by outcome desirability) and reenlistment intention was  $r = 0.47$  ( $p < .01$ ). The relationship was higher than the relationship between Navy attraction and reenlistment intention ( $r = 0.41$ ,  $p < .01$ ) reported above, although the difference was not significant. The correlation between Navy instrumentality and career intention ( $r = 0.43$ ,  $p < .01$ ) was significantly larger than the correlation between Navy attraction and career intention ( $r = 0.36$ ,  $p < .01$ ) reported above. Civilian instrumentality indices were correlated significantly with reenlistment intention ( $r = -0.41$ ,  $p < .01$ ) and career intention ( $r = -0.41$ ,  $p < .01$ ). These relationships were significantly larger ( $p < .01$ ) than the corresponding correlations for civilian attraction and these same intentions ( $r = -0.24$  and  $r = -0.27$  for reenlistment and career intention, respectively). These relationships are summarized in the first two rows of Table 3.

(Participation/withdrawal intentions were correlated significantly with indices representing the attraction (or instrumentality) of alternative working contexts.) Thus participation and/or withdrawal intentions might be predicted for the same group of people. The errors in judgment that would occur if only one environment had been evaluated should be apparent, as should the confusion which would arise by stopping with the correlations between intentions and indices for two contexts. (Navy attraction "accounted" for more variance in intentions than did civilian attraction.) Better predictions might be made on the basis of Navy attraction (versus civilian attraction). However, it was argued in the Introduction that a simultaneous consideration of both alternatives was consistent with decision making strategies, and that such procedures would increase the relationship between attraction and intentions (Hypothesis 2).

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<sup>4</sup>The correlation between reenlistment and career intention was  $r = 0.93$ .

<sup>5</sup>Unless otherwise reported all significance levels were based on two tailed tests.

TABLE 3

Correlations Between the Attraction or Instrumentality  
of Being in the Navy or Being a Working Civilian  
and Reenlistment and Career Intentions (n=128)

Index	Attraction		Instrumentality	
	Reenlist	Career	Reenlist	Career
Navy	.41 <sup>a</sup>	.36	.47	.43
Civilian	-.24	-.27	-.41	-.41
Preference <sup>b,c</sup>	.44	.42	.48	.45
Civilian-Navy	-.54	-.52	-.56	-.53

<sup>a</sup>All coefficients significant at  $p < .01$ , 2 tailed test.

<sup>b</sup>n=127 for attraction; n=124 for instrumentality.

<sup>c</sup>See text for an explanation of preference.



## The Simultaneous Consideration of Two Work Contexts

Two strategies were employed in order to consider the attraction (or instrumentality) of the two work contexts at the same time. These procedures were designed to evaluate predicted improvements in the relationship between the judgment(s) of a context(s) and participation/withdrawal intentions. Prior to this, however, an examination of the level of the indices for different subgroups of respondents provides data consistent with hypothesis 2.

The two strategies for testing hypothesis 2 involved a comparative examination of the two attraction indices for each individual. Respondents were classified into two groups on this basis:

- (a) The Navy Higher (NH) group included those individuals for whom the Navy attraction index exceeded the attraction index for being a working civilian.
- (b) The Civilian Higher (CH) group included those individuals for whom the civilian attraction index exceeded the Navy attraction index.

Thirty-one individuals were classified as Navy Higher (NH); 96 as Civilian Higher (CH).<sup>6</sup> Table 4 shows the means and standard deviations for these indices. For 31 NH individuals the attraction of the Navy ( $\bar{X}$  = 54.97) was higher than the attraction of being a working civilian ( $\bar{X}$  = 40.44). The difference between these means was significant at beyond the one percent level. For 96 CH individuals the attraction of being a working civilian ( $\bar{X}$  = 56.33) was higher than the attraction of the Navy ( $\bar{X}$  = 23.75). This difference was significant at beyond the one percent level. Table 4 also shows that for all respondents being a working civilian was judged to be more attractive ( $\bar{X}$  = 52.35) than being in the Navy ( $\bar{X}$  = 31.38).

Table 5 contains means and standard deviations for instrumentality indices with subgrouping based on whether an individual's Navy instrumentality or civilian instrumentality index was higher. For all respondents, being a working civilian was perceived to be more instrumental ( $\bar{X}$  = 41.55) for the attainment of the outcomes than was being in the Navy ( $\bar{X}$  = 27.05). Twenty-six individuals were classified NH; 98 individuals were classified CH. The instrumentality indices for the Navy and being a working civilian were equivalent for four individuals, hence, 124 respondents were categorized. Ninety-two of the 98 CH respondents classified on the basis of instrumentality were included among the 96 classified CH on the basis of their attraction index.

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<sup>6</sup>The loss of one subject was due to the fact that this individual had equivalent Navy and working civilian attraction indices.

TABLE 4

Means and Standard Deviations for Navy and Civilian  
Attraction and Reenlistment and Career Intentions

	Navy attraction	Civilian attraction	Difference <sup>a</sup>	Reenlist Intent	Career Intent
Total Sample (n=128)					
$\bar{X}$	31.38	52.36	20.98*	2.24	2.05
s.d.	24.48	22.81	28.66	1.59	1.44
Navy Higher (n=31)					
$\bar{X}$	54.94	40.68	-14.26*	3.48	3.13
s.d.	26.89	21.47	14.15	1.75	1.69
Civilian Higher (n=96)					
$\bar{X}$	23.75	56.33	32.58*	1.84	1.72
s.d.	18.25	22.04	22.11	1.32	1.17

<sup>a</sup>Difference = Civilian index-Navy index.

<sup>b</sup>The number of respondents in Navy higher and civilian higher does not add to 128. See footnote 6 (page 23) for explanation.

\*p<.01, 2 tailed test.

TABLE 5

Means and Standard Deviations for Navy and Civilian  
Instrumentality and Reenlistment and Career Intentions

Sample	Navy instrument- ality	Civilian instrument- ality	Difference <sup>a</sup>	Reenlist Intent	Career Intent
Total Sample (n=128)					
$\bar{X}$	27.05	41.55	14.50*	2.24	2.05
s.d.	13.92	9.29	18.57	1.59	1.44
Navy Higher (n=26)					
$\bar{X}$	45.08	33.38	-11.70*	3.65	3.27
s.d.	8.67	6.05	9.12	1.81	1.76
Civilian Higher (n=98)					
$\bar{X}$	21.73	43.79	22.05*	1.83	1.70
s.d.	10.50	8.89	13.41	1.25	1.14

<sup>a</sup>Difference = Civilian index-Navy index.

<sup>b</sup>The number of respondents in Navy higher and civilian higher does not add to 128. See text for explanation (page 23).

\*p<.01, 2 tailed test.

Similarly, 25 of the 26 NH respondents using instrumentality indices were included among the 31 respondents classified NH utilizing the attraction indices.

NH individuals evaluated the Navy ( $\bar{X}$  = 45.08) as being significantly more "instrumental" than their own evaluation of being a working civilian ( $\bar{X}$  = 33.38) and significantly more instrumental than the instrumentality evaluation of the CH group ( $\bar{X}$  = 21.73). The reverse was true for CH individuals. They evaluated being working civilian as more instrumental ( $\bar{X}$  = 43.79) than being in the Navy ( $\bar{X}$  = 21.73) and more instrumental than the instrumentality evaluation of the NH group ( $\bar{X}$  = 33.38).

The first strategy to assess the advantage of using both attraction (or both instrumentality) indices involved assigning scores to individuals depending on which context they judged higher. The results of this dichotomous scoring were correlated with reenlistment and career intention; the point biserial correlation coefficients for attraction and instrumentality are shown in the third row of Table 3. The correlations for attraction scoring and reenlistment intention ( $r$  = 0.44,  $p$  < .01) and career intention ( $r$  = 0.42,  $p$  < .01) were not significantly larger than the correlations between Navy attraction indices and intentions. Similarly, preference scoring with instrumentality did not result in significantly larger correlations with reenlistment and career intentions.

This first procedure for considering the attraction and/or instrumentality of two contexts did not significantly increase the relationship between the indices and intentions over that obtained by using the evaluation of one context alone. On the other hand the means shown in Tables 4 and 5 for NH and CH groups suggested that there were definite preferences for the two contexts. It is possible that the direction of preference alone was not sufficient to increase the degree of covariation between indices and intentions. Rather the existence of a preference and the direction and magnitude of that preference may be important.

A second strategy employed to test hypothesis 2 took the magnitude of the preference into account by using difference scores. The difference between the civilian attraction and Navy attraction index (scored in favor of the civilian attraction index) was calculated for each individual and correlated with reenlistment and career intentions. The last row of Table 3 shows these correlations. The correlation between the difference in the attraction of the two contexts and reenlistment intention was  $r$  = -0.54 ( $p$  < .01). The larger the difference between the attraction of the two contexts when scored in favor of being a working civilian, the lower was the intention of

continued organizational participation. This correlation was significantly larger than the correlation ( $r = 0.41$ ) between Navy attraction and reenlistment intention for all respondents. Similarly the correlation between the difference in the attraction of the two contexts and career intention was  $r = -0.52$  ( $p < .01$ ). This relationship was significantly larger than the relationship between Navy attraction and career intention ( $r = 0.36$ ) calculated for all respondents.

The second strategy for the simultaneous consideration of the attraction of two contexts led to increased relationships between proportions attraction indices and participation/withdrawal intentions.

The correlation between the difference in the instrumentality of being in the Navy and being a working civilian and reenlistment intention was equal to  $r = -0.56$  ( $p < .01$ ). This correlation was not significantly larger than the corresponding correlation for the difference between Navy and civilian attraction and reenlistment intention ( $r = -0.54$ ). Similarly the correlation between the difference in the instrumentality of the two contexts and career intention ( $r = -0.53$ ,  $p < .01$ ) was almost identical to the corresponding correlation for attraction ( $r = -0.52$ ).

Hypothesis 2 was supported utilizing the second strategy. (The larger the difference between the attraction (instrumentality) of the Navy work environment and the alternative the lower were reenlistment and career intentions.)

The correlations presented to test hypotheses 1 and 2 were quite similar for attraction and instrumentality indices. The exception occurred for correlations between civilian indices and intentions. Civilian instrumentality was correlated higher with intentions than was civilian attraction (see Table 3, row 2).

Further evidence of the similarity of instrumentality and attraction data is shown in Table 6 which examines the hit rate for correct placements of respondents into reenlistment groups on the basis of instrumentality and attraction indices. The very slight superiority of instrumentality is more evident for NH individuals. Thus, 17 of 31, or 55% of the NH individuals on attraction intended to reenlist. Alternatively, 16 of 26, or 62%, of the NH individuals on instrumentality intended to reenlist. The hit rates for CH were almost identical using attraction or instrumentality to group individuals. Correct placement percentages were slightly higher when instrumentality was used as the basis for classification than when attraction was employed.

TABLE 6

Distributions of Reenlistment Intentions as a Function of Whether the Navy or Civilian Environments were Viewed as More Attractive or Instrumental for the Attainment of Outcomes

## Attraction

<u>Navy higher</u> (n=31)			<u>Civilian higher</u> (n=96)		
<u>Intention</u>	<u>Frequency</u>	<u>Percent</u>	<u>Intention</u>	<u>Frequency</u>	<u>Percent</u>
1	6	19	1	56	58
2	4	13	2	22	23
3	4	13	3	5	5
4	9	29	4	6	6
5	2	6	5	4	4
6	6	19	6	3	3
45% (14)			86% (83)		
55% (17)			14% (13)		
$(\chi^2 = 19.92, p<.001)$					

## Instrumentality

<u>Navy higher</u> (n=26)			<u>Civilian higher</u> (n=98)		
<u>Intention</u>	<u>Frequency</u>	<u>Percent</u>	<u>Intention</u>	<u>Frequency</u>	<u>Percent</u>
1	5	19	1	56	57
2	3	12	2	23	23
3	2	8	3	7	7
4	8	31	4	6	6
5	2	8	5	4	4
6	6	23	6	2	2
38% (10)			88% (86)		
62% (16)			12% (12)		
$(\chi^2 = 25.81, p<.001)$					

### Further Data on Outcome Desirability

Results have shown that instrumentality indices were correlated with intentions at levels equivalent to attraction and intention relationships. And, hit rates for "predicting" intentions showed a slight superiority for instrumentality. Data presented below show that it would be premature to conclude that the inclusion of outcome desirability does not improve the relationship with intentions. This is at least true for the present problem. The contribution of outcome desirability occurs for a subgroup of all respondents, and, since that group constituted approximately 20% of all respondents, the effects were vitiated when these individuals were combined with the larger remaining portion of the sample.

To investigate further the similarity in covariation between attraction and instrumentality the respondent sample was subdivided into two groups. One group was composed of 25 individuals classified as having preferred the Navy on the basis of both their instrumentality and attraction indices. The second group contained those 92 individuals for whom being a working civilian was preferred to being in the Navy using both the instrumentality and attraction indices. Employing this procedure, 117 individuals from the original sample of 128 were classified. Means and standard deviations were calculated on the indices and intentions for the samples of 117, 25 and 92. These descriptive statistics were quite close to corresponding values shown in Tables 4 and 5.

The results of correlating attraction or instrumentality indices and intentions for the reduced sample are shown in Table 7. Examination reveals that these coefficients were slightly higher than those reported in Table 3. Therefore the subject loss occasioned when a dual classification criterion was used did not alter the overall impact of the data. Correlations were calculated between outcome desirability sums, and intentions, attraction indices and instrumentality indices for the reduced total sample ( $n = 117$ ) and its two component subgroups (Navy higher and Civilian higher). These coefficients are shown in Table 8.

The correlations between outcome desirability sums and reenlistment ( $r = 0.01$ ) and career ( $r = -0.03$ ) intentions indicate that outcome desirability did not contribute to the variance in intentions for the reduced total sample.<sup>7</sup> Looking across the top row of Table 8 the data

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<sup>7</sup>These correlations for the total sample of 128 were  $r = 0.04$  and  $r = 0.01$  for reenlistment and career intention, respectively.

TABLE 7

Correlations Between the Attraction or Instrumentality  
of Being in the Navy or Being a Working Civilian  
and Reenlistment and Career Intentions (n=117)

Index	Attraction		Instrumentality	
	Reenlist	Career	Reenlist	Career
Navy	.43 <sup>a</sup>	.39	.49	.47
Civilian	-.29	-.32	-.44	-.43
Civilian-Navy	-.57	-.55	-.58	-.55

<sup>a</sup> All coefficients significant at  $p < .01$ , 2 tailed test.



TABLE 8

Correlations Among Attraction and Instrumentality Indices,  
Sum Outcome Desirability and Intentions

Sample	Correlations Between Sum Outcome Desirability and:							
	Intention		Attraction			Instrumentality		
	Reenlist	Career	Navy	Civilian	Civ-Navy	Navy	Civilian	Civ-Navy
Total reduced sample (n=117)	.01	-.03	.51**	.75**	.14	.07	.13	.02
Navy indices higher (n=25)	.27	.17	.77**	.82**	-.27	.16	.02	-.34
Civilian indices higher (n=92)	-.15	-.18 <sup>+</sup>	.54**	.80**	.40**	-.03	.23*	.18 <sup>+</sup>

<sup>+</sup>p<.10, 2 tailed test.

\*p<.05, 2 tailed test.

\*\*p<.01, 2 tailed test.

show that outcome desirability "contributed" to Navy and civilian attraction indices but was not correlated substantially with Navy instrumentality ( $r = 0.07$ ), civilian instrumentality ( $r = 0.13$ ), their difference ( $r = 0.02$ ) or the difference between attraction indices ( $r = 0.14$ ). Rows 2 and 3 in the table reveal quite a different picture. First, outcome desirability sums were correlated positively with reenlistment ( $r = 0.27$ ) and career ( $r = 0.17$ ) intentions for the NH group. Though not significant these relationships contrast sharply with corresponding relationships for the CH group ( $r = -0.15$  and  $r = -0.18$  for reenlistment and career intention, respectively). Second, outcome desirability sums were more highly correlated with Navy instrumentality ( $r = 0.16$ ) than with civilian instrumentality ( $r = 0.02$ ) for NH individuals. At the same time these relationships were reversed for CH people so that desirability was correlated minimally with Navy instrumentality ( $r = -0.03$ ) and positively with civilian instrumentality ( $r = 0.23$ ,  $p < .05$ ).

### Global Instrumentality

The two questions which assessed overall Navy and working civilian instrumentality indicated, that for the sample as a whole, being a working civilian ( $\bar{X} = 2.68$ ) was evaluated as more instrumental ( $p < .01$ ) than being in the Navy ( $\bar{X} = 1.33$ ).

The correlations between the single Navy instrumentality question and reenlistment intention ( $r = 0.52$ ,  $p < .01$ ) and career intention ( $r = 0.53$ ,  $p < .01$ ) were higher than the correlations between Navy instrumentality indices and reenlistment intention ( $r = 0.47$ ) and career intention ( $r = 0.43$ ). Similarly, the difference between the single civilian instrumentality and Navy instrumentality questions was correlated significantly with reenlistment ( $r = -0.61$ ,  $p < .01$ ) and career ( $r = -0.57$ ,  $p < .01$ ) intentions.

It is also of interest to note that 26 of 30 Navy instrumentality ratings were correlated significantly ( $p < .05$ ) with the single overall Navy instrumentality question. The median  $r$  was equal to  $r = 0.28$  (range = 0.07 to 0.50). Nine of the 30 instrumentality ratings for being a working civilian were correlated significantly ( $p < .05$ ) with overall civilian instrumentality. The median  $r$  was equal to  $r = 0.14$  (range = 0.02 to 0.32).

### Work and Navy Satisfaction

Table 9 shows relationships between attraction and instrumentality indices with overall Navy and work satisfaction.<sup>8</sup> The discrepancy

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<sup>8</sup>The correlation between satisfaction with work and satisfaction with the Navy was  $r = 0.56$  ( $p < .01$ , 2 tailed test).

between civilian and Navy instrumentality indices was the highest correlate of Navy and work satisfaction. Thus the larger the difference between the instrumentality of being a working civilian and being in the Navy, the less satisfied was the individual with his work ( $r = -0.62$ ) and with the Navy ( $r = -0.61$ ). While the instrumentality discrepancy was the best correlate of satisfaction, it was not substantially different from the degree of covariation between satisfaction and: (a) Navy attraction; (b) Navy instrumentality; or (c) the difference between Navy and civilian attraction.

TABLE 9

Correlations Between Various Indices and Satisfaction  
With Work and Satisfaction With the Navy

Index	Satisfaction with work	Satisfaction with Navy
Navy attraction	.55**	.55**
Civilian attraction	-.15	-.17
Navy instrumentality	.59**	.58**
Civilian instrumentality	-.35**	-.34**
Outcome desirability	.09	.09
Overall Navy Instrumentality	.39**	.48**
Overall Civilian Instrumentality	-.10	-.19*
Civilian attraction - Navy attraction	-.59**	-.60**
Civilian Instrumentality - Navy instrumentality	-.62**	-.61**

\*  
p<.05, 2 tailed test.

\*\*  
p<.01, 2 tailed test.

## DISCUSSION

### Comparison of Alternatives

Thibaut and Kelley's (1959) concepts of comparison level and comparison level for alternatives along with Vroom's work (Vroom, 1966; Vroom and Deci, 1971) suggested that participation/withdrawal intentions and behavior are dependent on how the individual evaluates his present organization and another (other) organization(s). This possibility was attacked in the present paper by showing, first, that instrumentality theory components were related to behavioral intentions, and second, that information about an alternative organization improved that relationship.

The comparison of alternatives to one's present circumstances spoken of here is not very different from more traditional psychosocial processes discussed in the literature. Thibaut and Kelley noted that influence in their own work which was given some historical perspective through reference to Hyman's (1942) work on reference group functions. Thus, the existence of a reference group can have profound effects on the individuals behavior patterns within his membership group. From Katz and Kahn's (1966) presentation of open system theory and Allport's (1962) own work, the concept of "partial inclusion" assumes a major role in that portion of the individual which is involved in, or part of, a collective structure. Allport (1962) has noted that:

The fact is not experimentally provided for that the individuals from whose behavior the "group laws" have to be derived belong also to other groups. The same individual can belong to many. What the individual does in one group, or whereby his relation to that group, may have an important bearing upon what he does in another group; and the total "group membership manifold" of one individual who is a member of a particular group may be widely different from the manifolds of other members. (Allport, 1962, p. 25)

Thus, both the evaluations of outcomes which one feels he might attain in alternative environments, and the decision one reaches as a result of a comparison among alternatives are affected by the

collective structures to which one belongs (in fact) and with which one identifies. These partial inclusions both influence what alternatives will be evaluated and how in fact they will be evaluated.

The important point is that consideration must be given to occupational alternatives which might influence the decision process underlying participation/withdrawal decisions.

The evaluation of the perceived relationship between being in an environment and attaining outcomes is probably not an absolute judgmental process undertaken by the individual making the evaluations. In the process of judging the instrumentality of the Navy for the attainment of outcomes, individuals probably employ comparative judgments, i.e., a conception of the instrumentality of an alternative is employed when formulating evaluations of the organization of interest. The alternative can be evaluated in its own right at the same time that it forms a standard of comparison. Thus, individuals evaluated instrumentality relationships for being a working civilian and actually attaining outcomes. Again it can be argued that this is not an absolute judgment but rather, a judgment formed in light of knowledge of contingencies in an alternative. In the present study each context the individuals evaluated appeared to function as a contrast for judgment such that the correlation between Navy and civilian instrumentality sums was negative ( $r = -0.25$ ,  $p < .01$ ).

Comparative data of the nature collected here can serve as a procedure to better account for variance in intentions. Additionally, data of this type can also provide a basis upon which personnel managers gain knowledge about links between anticipated outcome attainment and intentions. Further, the data would allow organization officers to pinpoint primary areas of contrast with a competing context or organization. This role for instrumentality theory has already been suggested for occupational preference (Wanous, 1972) and the development of incentive programs for purposes of increasing individual performance motivation (Schneider, 1972). Employing instrumentality theory in this manner would provide a basis for action to change behavioral intentions.

#### Participation/Withdrawal Intentions

From the time at which an individual states an intention to engage in some type of behavior to the time the behavior is warranted, perceptions, evaluations, incidents, etc., can occur which alter stated intentions. The extent to which an intention can be modified might

depend on the nature of the intention and the level at which the intention is specified. The value of knowing an intention sometime before the behavior to which it is related occurs, lies in the advance knowledge it provides about the individual's expected behavior. Thus, the expression of withdrawal intentions by a group of individuals might serve as a signal that something ought to be done to try to change the way they feel. On the other hand, those individuals seemingly "in the fold" should not be ignored. Their intentions might change also. The data of the present research offer some validity to these arguments. First, it was found that individuals who expressed more positive intentions to make the Navy their career thought about their intention more often than those individuals who expressed less positive career intentions ( $r = 0.40, p < .01$ ). Not only do these individuals think about it more often but the level of expressed career intention for these individuals was less certain. Thus the correlation between career intention and certainty with which that intention was held was negative ( $r = -0.50, p < .01$ ). People who intend to make the Navy their career indicate they are likely to reevaluate their position and, in general, are less certain about maintaining their intention. More importantly the relationships indicate that non-participative (withdrawal) intentions are held more firmly than participative intentions and that they are evaluated less often. These data indicate that organizations have a dual role to fulfill in order to maintain human resources consistent with manpower needs. Attention must be given to the individuals who intend to withdraw. At the same time the individuals who plan to continue in the organization cannot be ignored. Typically, work forces have been treated similarly, that is, personnel policies have been directed at the "modal" employee. The nature of organizational changes instituted to improve organizational participation decisions should depend on the degree to which behavioral intentions vary for different people and are held with differing degrees of certainty by these people. A study reported by Kraut (1970) on the relationship between factors of job satisfaction and turnover reached a similar conclusion:

Direct measures of employee intentions to remain with an organization seem to have potential for personnel planning. They also can be usefully considered as an intermediate criterion for the effects of changing work satisfaction. (page 6)

### Multiple Instrumentality Ratings Versus a Single Global Rating

The correlations between the two questions about the instrumentality of the Navy and the civilian alternative and intentions were higher than corresponding relationships for the difference between civilian and Navy instrumentality indices ( $r = -0.56$  and  $r = -0.53$  for reenlistment and career intention, respectively). Thus, slightly larger proportions of variation between the variables might be gained by using the Navy instrumentality difference index, the single question, or the difference between two single questions. The assessment of the instrumentality of a situation for the attainment of specific outcomes requires more work for the subject and the investigator. Thus, there are problems about the choice of outcomes to be evaluated, how many and at what level of specificity (Mitchell, 1971; Heneman and Schwab, 1972). The assessment of multiple outcomes is the preferred procedure, however, for at least three reasons. First, the single questions are more prone to measurement error. Second, the single index might allow for global predictions, but it does not tell us anything about the specific outcomes for which a situation is instrumental. Third, even if the reliability of the single item were assured, the single question by necessity will lead to a more global response by respondents. This is so because the respondent is asked to consider "everything" about the situation. Therefore, the single question takes into account more than an index based on the sum of separate instrumentality responses. To some extent this was borne out in the present study since the correlation between the Navy instrumentality index and the single Navy instrumentality question was  $r = 0.55$ . Although significant, the fact that the correlation is not 1.0 indicates that the two measures are not identical. As Dunnette (1966) has commented:

Unless the correlation between two measures is 1.0, it is not proper to attribute identicalness to the two measures; yet, many investigators, upon obtaining a "high" correlation (say, an  $r$  of .60 or greater) between two measures, behave as if the two are perfectly interchangeable and functionally equivalent. (page 121)

Additionally, the fact that the single Navy instrumentality question did as well as the Navy instrumentality index in this study is no assurance that it would fare equally well in a shorter questionnaire. This is so because the single question followed the specific outcome instrumentality items in the questionnaire. Respondents were very



likely primed for the question as often happens in satisfaction questionnaires. This suggests therefore, that both the index and single question are important.

### Instrumentality, Outcome Desirability and Feedback

The results supported the hypothetical feedback link shown to exist in Figure 1. Although unexpected and indirect, the resulting data illuminate a process about which there is much ambiguity. It is logical to assume that the cognitive process outlined in Figure 1 is a continuous one, such that over a period of time, an individual cycles through the perception-evaluation-intention-perception, etc. chain a number of times. This probably occurs differentially for various persons and at irregular intervals for the same person. That is, the occurrence of specific critical incidents might cause a reevaluation of contingencies.

The indirect support for feedback arises from the patterns of correlations between instrumentality ratings and outcome desirability for subgroups of the present sample.

The results showed that outcome desirability was correlated with intentions. The fact that desirability was correlated positively with Navy instrumentality for NH people and positively with civilian instrumentality for CH people provided a partial answer to the "some-time" effect of desirability. It should also be obvious that the negative correlation between desirability and intentions for CH individuals depressed the relationship between civilian attraction indices and intentions. Removing the effects of desirability, by not weighting civilian instrumentality meant that civilian instrumentality was more significantly negatively correlated with intentions than was civilian attraction. Additionally, these data indicate that instrumentality perceptions either were influenced by or influenced outcome desirability evaluations.

These data point to the complex structure of the cognitive variables underlying intentional behavior. They indicate that the level of intention which is expressed by individuals has important effects on perceptions of anticipated environmental return (instrumentality).

From a causal point of view instrumentality theory data (Lawler, 1968; Lawler and Suttle, 1973) support the hypothesis that perceptions precede action. The differential pattern of correlations among desirability, instrumentality and intentions in the present study point out the difficulties that ensue when studying the cognitive process. The difficulty involves finding the proper

times to tap into the process. This is compounded by the fact that outcomes are probably differentially salient at various time periods.

Further investigation is required to identify those conditions under which desirability does contribute to the relationship of the attraction index to intentions. Certainly the fact that instrumentality data were collected for an alternative (and that such data were correlated significantly with intentions) provided the opportunity to note these differential effects. Research is necessary because this finding contrasts with the major portion of the instrumentality research conducted to date. For example, Spitzer (1964) provided an early presentation of the development of instrumentality theory to work on work related behavior (absenteeism, withdrawal). His data are noteworthy because he found that, contrary to the instrumentality model, weighting goal attainment (instrumentality) estimates by goal importance did not lead to statistically significant increments in the multiple correlation of an attraction index with job satisfaction. On the other hand Pritchard and Sanders (1973) reported recently that the valence (desirability) ratings of 15 outcomes by 146 U. S. Postal Service trainees were more highly correlated with effort and performance ratings than was an index of instrumentality. The authors attributed these data to poor measurement of instrumentality. However, Pritchard and Sanders added instrumentality ratings of negative outcomes to arrive at instrumentality indices. This had the effect of assigning higher instrumentality indices to subjects who felt that their position was instrumental for the attainment of negative outcomes. In the present study the instrumentality ratings for these outcomes were subtracted from the instrumentality index.

Even if desirability contributed positively to the determination of intention in the present research, the procedures involved in arriving at an attraction index are subject to error. Thus, error variance in either the instrumentality or desirability measures (or both) would increase the error variance in a composite index (Pritchard and Sanders, 1973). This same problem was noted by Mikes and Hulin (1968) when they discussed the fact that weighting satisfaction items by importance did not improve correlations between the weighted index and overall satisfaction as compared with a nonweighted index.

## Conclusions

The present data have shown that, for most individuals in the sample, the grass was greener in an alternative occupational context. Additionally, the reasons for these evaluations were identified by utilizing instrumentality theory to relate perceptions of anticipated outcome attainment to behavioral intentions of a participation/withdrawal nature. Not only was the grass greener, but this global evaluation influenced the manner in which contexts were evaluated.

While the study identified the relationship between instrumentality variables and intentions, other variables, most notably the opinions and values of significant others, should be examined in concert with instrumentality variables. Continued participation in an organization which is more attractive than an alternative may be precluded by perceptions of strong familial objections towards continuance and the individual's willingness to comply with such perceived pressure (c.f., Dulany, 1968; Ajzen and Fishbein, 1969; and Sussman and Cogswell, 1971, for a discussion of the influence of perceived demands and motivation to comply with these demands). Schneider and Dachler (1972) have recently proposed research on organizational participation which incorporates instrumentality variables, extra-personal perceptions and attitudes, and organizational climate concepts. This kind of research has the potential advantages of better predicting, understanding and explaining the bases of an individual's association with an organization.

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UNCLASSIFIED

Security Classification

## DOCUMENT CONTROL DATA - R &amp; D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author) NAVAL PERSONNEL RESEARCH AND DEVELOPMENT LABORATORY ATTITUDE AND MOTIVATION RESEARCH DIVISION WASHINGTON NAVY YARD, WASHINGTON, D. C. 20390		2a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	
		2b. GROUP N/A	
3. REPORT TITLE PRINCE PERSONNEL REACTIONS TO INCENTIVES, NAVAL CONDITIONS AND EXPERIENCES: A LONGITUDINAL RESEARCH STUDY Report No. 4: THE GRASS IS GREENER: A COMPARISON OF THE NAVY WORK ENVIRONMENT WITH A MAJOR ALTERNATIVE.			
4. DESCRIPTIVE NOTES (Type of report and inclusive dates) FOURTH IN SERIES			
5. AUTHOR(S) (First name, middle initial, last name)  JOSEPH SCHNEIDER			
8. REPORT DATE APRIL 1973		7a. TOTAL NO. OF PAGES 46	7b. NO. OF REFS 39
8a. CONTRACT OR GRANT NO.  N/A		9a. ORIGINATOR'S REPORT NUMBER(S)  WTR 73-28	
b. PROJECT NO.  N/A		9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)  REPORT No. 4	
c.  N/A			
d.  N/A			
10. DISTRIBUTION STATEMENT  APPROVED FOR PUBLIC RELEASE. DISTRIBUTION UNLIMITED.			
11. SUPPLEMENTARY NOTES  N/A		12. SPONSORING MILITARY ACTIVITY BUREAU OF NAVAL PERSONNEL WASHINGTON, D. C. 20370	
13. ABSTRACT <p>THIS REPORT IS THE FOURTH IN A SERIES OF REPORTS FROM A LONGITUOINAL STUDY OF FIRST TERM ENLISTED PERSONNEL. THIS REPORT DOES NOT CONTAIN LONGITUOINAL DATA. ITS PURPOSE WAS; (A) TO PROVIDE DEVELOPMENTAL RESEARCH FOR THE INCLUSION OF A THEORETICAL/METHODOLOGICAL APPROACH FOR FURTHER DATA COLLECTION IN THE PROJECT, AND MORE SPECIFICALLY (B) TO PROVIDE CONSTRUCT VALIDATION FOR INSTRUMENTALITY THEORY, A NETWORK OF PROPOSITIONS OF MOTIVATION WHICH IS BASED ON DECISION MAKING AMONG ALTERNATIVE COURSES OF ACTION.</p> <p>THE REPORT CONTAINS THE RESULTS OF DATA ANALYSES ABOUT; (A) THE ATTRACTION OF THE NAVY TO A SAMPLE OF 128 NAVY ENLISTEES, (B) THE ATTRACTION OF A MAJOR ALTERNATIVE (BEING A WORKING CIVILIAN) FOR THE SAME GROUP OF ENLISTEES, (C) REENLISTMENT AND CAREER INTENTIONS, AND (D) CERTAINTY OF CAREER INTENTIONS AND SATISFACTION.</p> <p>IT WAS FOUND THAT THE ATTRACTION OF THE NAVY WAS CORRELATED SIGNIFICANTLY WITH REENLISTMENT AND CAREER INTENTIONS. HOWEVER, FOR THE SAMPLE AS A WHOLE, THE ATTRACTION OF THE ALTERNATIVE, BEING A WORKING CIVILIAN, WAS HIGHER THAN THE ATTRACTION OF THE NAVY. FURTHER, THE CORRELATIONS BETWEEN INTENTIONS AND ATTRACTION WERE HIGHER WHEN THE ATTRACTION OF THE NAVY AND THE ALTERNATIVE WERE CONSIDERED SIMULTANEOUSLY.</p> <p>IT WAS CONCLUDED THAT REENLISTMENT AND CAREER INTENTIONS/BEHAVIOR RESEARCH SHOULD CONSIDER PERCEPTIONS AND EVALUATIONS OF BOTH AN INDIVIDUAL'S CURRENT WORK ENVIRONMENT AND POTENTIAL ALTERNATIVE WORK ENVIRONMENTS. INSTRUMENTALITY THEORY PROVIDES A THEORETICAL BASIS FOR THE COLLECTION OF SUCH DATA.</p>			

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Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
ALTERNATIVES						
CAREER INTENTION						
COMPARISON LEVEL						
INSTRUMENTALITY THEORY						
INTENTION						
OUTCOME DESIRABILITY						
PARTICIPATION/WITHDRAWAL						
REENLISTMENT INTENTION						
TURNOVER						

DD FORM 1 NOV 68 1473 (BACK)

S/N 0101-807-6821

UNCLASSIFIED

Security Classification

A-31409



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